

LISTING OF CLAIMS:

1. (previously presented) An apparatus for classifying information transmitted over a communications network into content category classifications, the apparatus comprising:

means for capturing network packets or fragments of said packets transmitted in a session of transmission of information from an information supplying communications terminal towards a remote user communications terminal on a path of said communications network, said capture being prior to the packets reaching the remote terminal, and obtaining one or more transmission interaction characteristics based on the captured packets of the information having at least one image, each said packet containing a network protocol, a network address of the information supplying terminal, a network address of the remote terminal, and a portion of the information, said one or more transmission interaction characteristics including at least one of i) date and time stamps, ii) size of image transmission activities, iii) size of text transmission activities, iv) ratio of image to text transmission activities, and v) variations in content patterns within the packets of the transmission; and

analysing means arranged to compare any of the interaction characteristics obtained from the captured packets with corresponding interaction characteristics of known information contained in a list of predetermined content category classifications of information, and having a statistical modeling

arrangement for predicting a content category classification of unknown information based on said one or more obtained interaction characteristics, the content category classification prediction being free of any user input and free of any relevancy as to a particular user,

wherein the apparatus is arranged to respond to the predicted content category classification of the captured interaction characteristics provided by the analysing means to prevent the captured packets of any interaction characteristics with a predicted classification listed as undesirable from being forwarded further along the path to the remote user communications terminal.

2-4. (canceled)

5. (previously presented) An apparatus for classifying user profiles of users accessing information or content servers on a communications network, the apparatus comprising:

means for capturing network packets or fragments of said packets transmitted in a session of transmission of information from a user communications terminal or provided by any one of said content servers towards a remote user communications terminal on a path of said communications network, said capture being prior to the packets reaching the remote

terminal, and obtaining one or more transmission interaction characteristics based on the captured packets of the information having at least one image, each said packet containing a network protocol, a network address of the information supplying terminal, a network address of the remote terminal, and portion of the information, said one or more transmission interaction characteristics including at least one of i) date and time stamps, ii) size of image transmission activities, iii) size of text transmission activities, iv) ratio of image to text transmission activities, and v) variations in content patterns within the packets of the transmission;

analysing means arranged to compare the interaction characteristics obtained from the captured packets with corresponding interaction characteristics of known information contained in a list of predetermined content category classifications of information, and having a statistical modeling arrangement for predicting a content category classification of said information or said one content server based on said one or more interaction characteristics, the content category classification prediction being free of any user input and free of any relevancy as to a particular user, and

means for classifying user profile in accordance with the predicted content category classification,

wherein the apparatus is arranged to respond to the predicted content category classification of the obtained

interaction characteristics provided by the analysing means to prevent the captured packets of any interaction characteristics with a predicted classification listed as undesirable from being forwarded further along the path to the remote user communications terminal.

6. (canceled)

7. (previously presented) The apparatus according to claim 1, further comprising means for storing said one or more transmission interaction characteristics.

8. (canceled)

9. (previously presented) The apparatus according to claim 1, wherein said one or more transmission characteristics are obtained from network packets or fragments thereof.

10. (previously presented) The apparatus according to claim 1, wherein the analysing means includes profiling means for providing profiles of interactions based on said one or more transmission interaction characteristics.

11. (previously presented) The apparatus according to claim 10, wherein said profiling means is arranged to process

said one or more transmission interaction characteristics for providing any one or more of: frequency of interaction; duration of interaction; duration of absence of interaction; patterns of content transmission; average number of http links within an object of related sites; and average number of like sites visited within a time frame for forming interaction profiles; and wherein the analysing means is adapted to use the interaction profiles for predicting content category classifications.

12. (previously presented) The apparatus according to claim 10, further comprising a knowledge base of predetermined profiles, and the analysing means is adapted to predict a particular content category classification based on a comparison between the profile of information to be classified and predetermined profiles.

13. (previously presented) The apparatus according to claim 12, further comprising means for updating the knowledge base so that the content category classification prediction can be enhanced following classifications.

14. (previously presented) The apparatus according to claim 1, wherein said communications terminals including at least one content server and at least one user communications terminal, and the packets of information are intended for transmission from

the content server to the user communications terminal, the content server being classified according to the content category classification predicted by the analysing means.

15. (previously presented) The apparatus of claim 1 ,
wherein,

the means for capturing network packets being adapted to obtain transmission interaction characteristics from at least two of i) the date and time stamps, ii) the size of image transmission activities, iii) the size of text transmission activities, iv) the ratio of image to text transmission activities, and v) the variations in transmission content patterns within the packets of the transmission; and

the analysing means for predicting the content category classification of said information is based on said at least two transmission interaction characteristics, the content category classification prediction being free of any user input and free of any relevancy as to a current user.

16. (previously presented) The apparatus of claim 1,
wherein,

the means for capturing network packets being adapted to obtain transmission interaction characteristics from at least three of i) the date and time stamps, ii) the size of image transmission activities, iii) the size of text transmission

activities, iv) the ratio of image to text transmission activities, and v) the variations in transmission content patterns within the packets of the transmission; and

the analysing means for predicting the content category classification of said information is based on said at least three transmission interaction characteristics, the content category classification prediction being free of any user input and free of any relevancy as to a current user.

17. (previously presented) The apparatus of claim 1, wherein,

the means for capturing network packets being adapted to obtain transmission interaction characteristics from each of i) the date and time stamps, ii) the size of image transmission activities, iii) the size of text transmission activities, iv) the ratio of image to text transmission activities, and v) the variations in transmission content patterns within the packets of the transmission; and

the analysing means for predicting the content category classification of said information is based on each of said transmission interaction characteristics, the content category classification prediction being free of any user input and free of any relevancy as to a current user.

18. (previously presented) The apparatus according to claim 1, wherein,

the capturing means capturing from each packet said transmission interaction characteristics including each of i) the date and time stamps, ii) the size of image transmission activities, iii) the size of text transmission activities, iv) the ratio of image to text transmission activities, and v) the variations in content patterns within the packets of the transmission, and

the analysing means compares each captured interaction characteristics obtained with the corresponding interaction characteristics of the known information contained in the list of predetermined content category classifications of information, and predicts the content category classification of the unknown information based on the comparisons as undesirable image content to be prevented from being forwarded toward the remote user communications terminal.

19. (previously presented) The apparatus according to claim 1, wherein,

the capturing means capturing from each packet said transmission interaction characteristics including each of i) the size of image transmission activities and ii) the ratio of image to text transmission activities, and

the analysing means compares each captured interaction characteristics of i) the size of image transmission activities and ii) the ratio of image to text transmission activities obtained with the corresponding interaction characteristics of the known information contained in the list of predetermined content category classifications of information, and predicts the content category classification of the unknown information based on the comparisons as undesirable image content to be prevented from being forwarded toward the remote user communications terminal.

20. (previously presented) The apparatus according to claim 5, wherein,

the capturing means capturing from each packet said transmission interaction characteristics including each of i) the date and time stamps, ii) the size of image transmission activities, iii) the size of text transmission activities, iv) the ratio of image to text transmission activities, and v) the variations in content patterns within the packets of the transmission, and

the analysing means compares each captured interaction characteristics obtained with the corresponding interaction characteristics of the known information contained in the list of predetermined content category classifications of information, and predicts the content category classification of the unknown

information based on the comparisons as undesirable image content to be prevented from being forwarded toward the remote user communications terminal.

21. (previously presented) The apparatus according to claim 5, wherein,

the capturing means capturing from each packet said transmission interaction characteristics including each of i) the size of image transmission activities and ii) the ratio of image to text transmission activities, and

the analysing means compares each captured interaction characteristics of i) the size of image transmission activities and ii) the ratio of image to text transmission activities obtained with the corresponding interaction characteristics of the known information contained in the list of predetermined content category classifications of information, and predicts the content category classification of the unknown information based on the comparisons as undesirable image content to be prevented from being forwarded toward the remote user communications terminal.

22. (previously presented) An apparatus for classifying information transmitted over a communications network into content category classifications, the apparatus comprising:

a capture means capturing image information packets transmitted over a network path during a session transmitting information from an information supplying communications terminal towards a remote user communications terminal, the packet capture being prior to the packets reaching the remote terminal,

captured content of each captured packet including

- i) a network protocol,
- ii) a network address of the information supplying terminal,
- iii) a network address of the remote terminal,
- iv) an image content,
- v) any contained text content;

characteristic-obtaining means obtaining a transmission interaction characteristic based on the content of the captured packets, said obtained transmission interaction characteristics including at least one of i) date and time stamps, ii) size of image transmission activities, iii) size of text transmission activities, iv) ratio of image to text transmission activities, and v) variations in content patterns within the packets of the transmission; and

analyzing means arranged to compare the interaction characteristic obtained from the captured packets with corresponding interaction characteristics of known information contained in a list of predetermined content category classifications of information, and having a statistical modeling

arrangement for predicting a content category classification of unknown information based on said obtained interaction characteristic

wherein the apparatus is arranged to respond to the predicted content category classification of the captured interaction characteristics provided by the analyzing means to prevent the captured packets of any interaction characteristics with a predicted classification listed as undesirable images from being forwarded further along the path to the remote user communications terminal.

23. (previously presented) The apparatus of claim 22, wherein, the content category classification prediction is free of any user input and free of any relevancy as to a particular user.